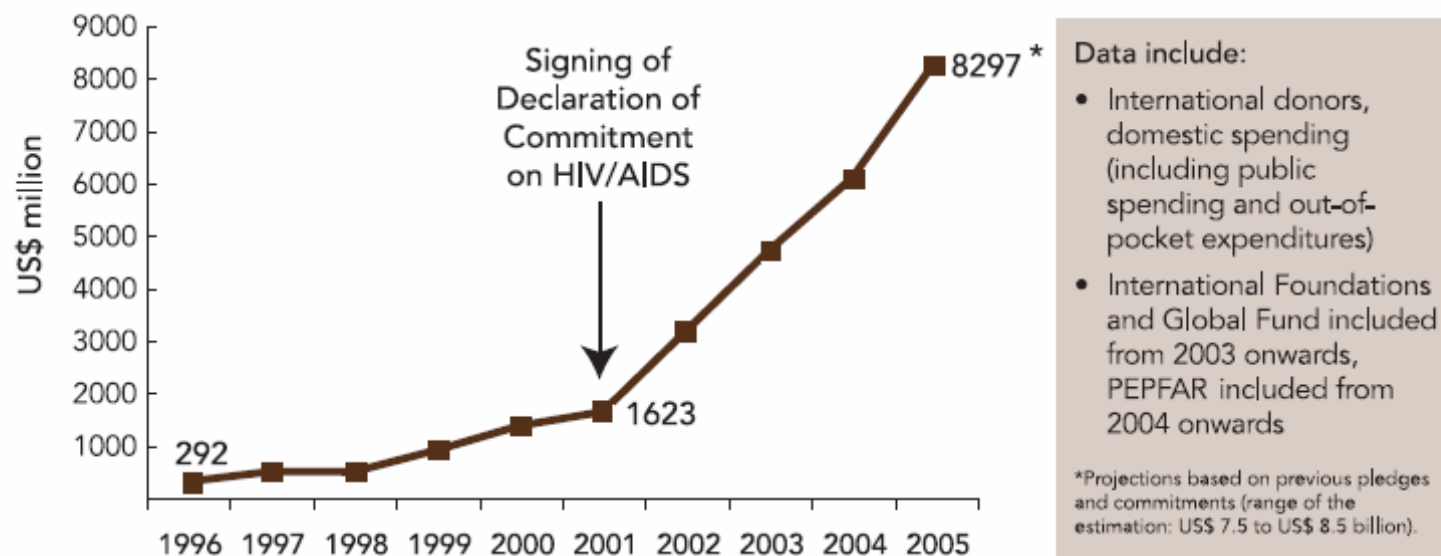


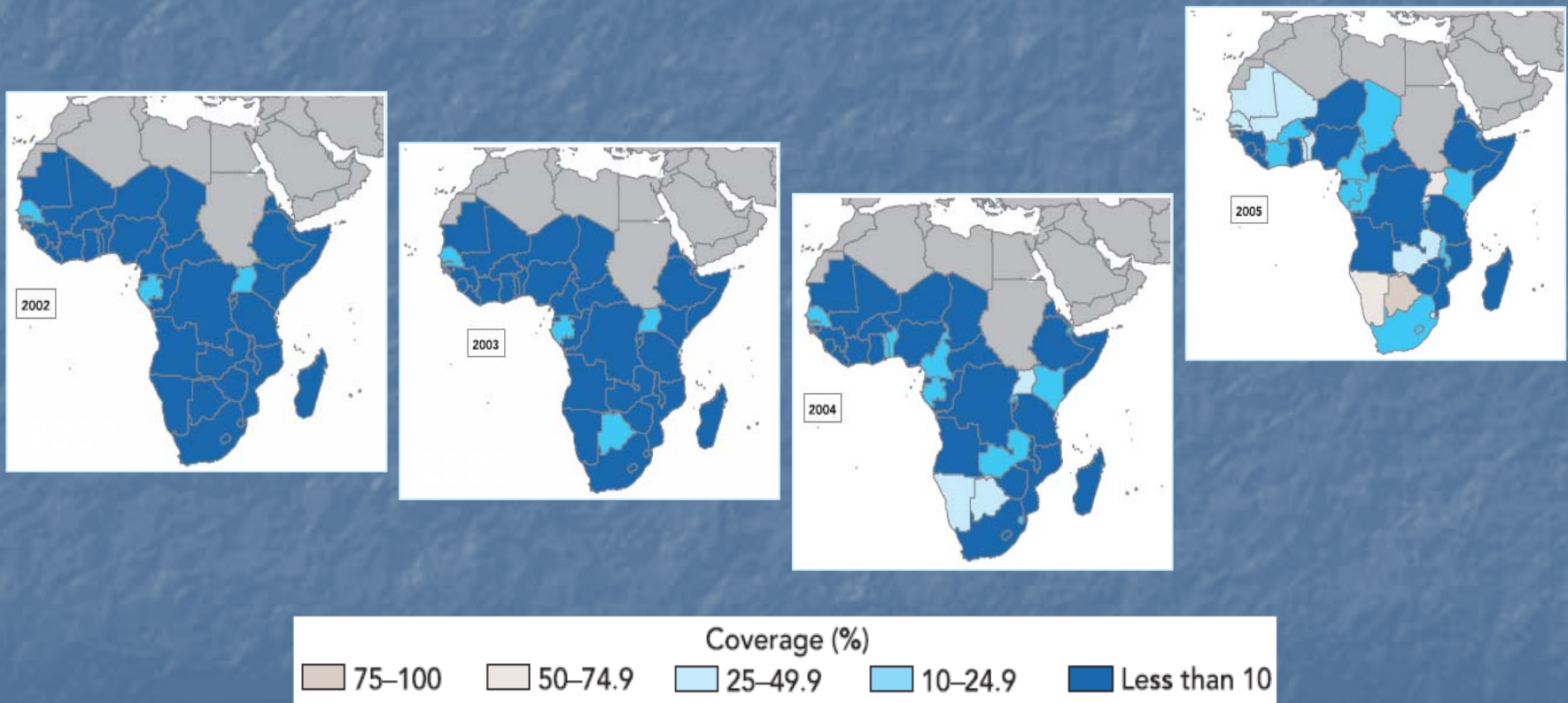
# **DREAM, an Africa-oriented model: a bridge from relief to development**

Leonardo Palombi and Maria Cristina Marazzi



**FIGURE 3.8****Estimated total annual resources available for AIDS, 1996–2005**

# People in sub-Saharan Africa on antiretroviral treatment as percentage of those in need, 2002–2005



Source: WHO/UNAIDS (2005). Progress on global access to HIV antiretroviral therapy: An update on “3 by 5.”

**FIGURE 2.3****Regional HIV and AIDS statistics and features, 2003 and 2005**

Country	Adults (15+) and children living with HIV	Adults (15+) and children newly infected with HIV	Adult (15–49) prevalence (%)	Adult (15+) and child deaths due to AIDS
Sub-Saharan Africa				
2005	24.5 million [21.6–27.4 million]	2.7 million [2.3–3.1 million]	6.1 [5.4–6.8]	2.0 million [1.7–2.3 million]
2003	23.5 million [20.8–26.3 million]	2.6 million [2.3–3.0 million]	6.2 [5.5–7.0]	1.9 million [1.7–2.3 million]



# Are optimal standards of care unsustainable?

AIDS: Volume 19(5) 25 March 2005 p 536-537

## **HIV/AIDS in Africa: treatment as a right and strategies for fair implementation. False assumptions on the basis of a minimalistic approach**

Palombi, Leonardo<sup>a</sup>; Perno, Carlo Federico<sup>a</sup>; Marazzi, Maria Cristina<sup>b</sup>

<sup>a</sup>DREAM Program, University 'Tor Vergata', Rome, Italy

<sup>b</sup>DREAM Program, University LUMSA, Rome, Italy.

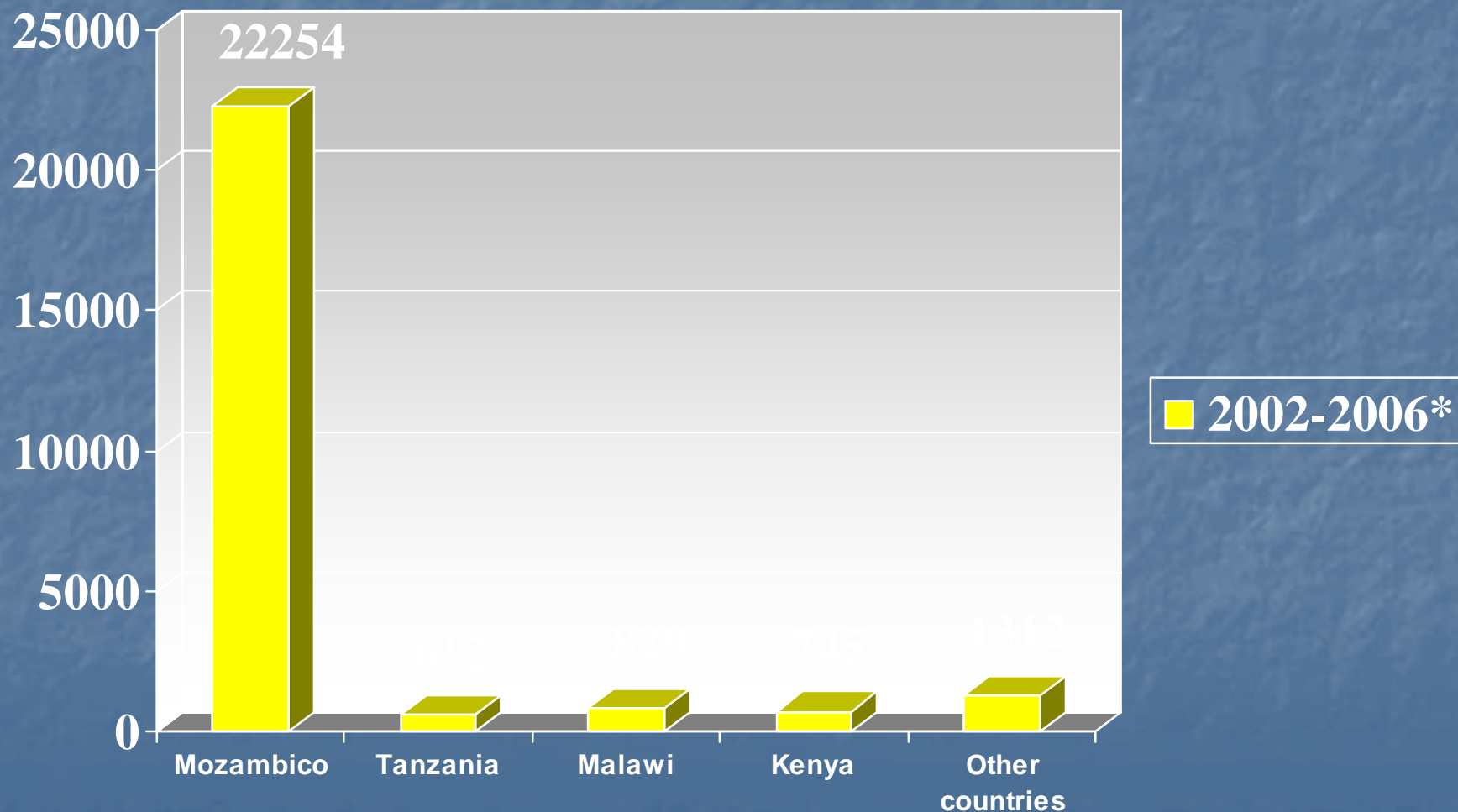
# DREAM Framework

- Nationwide Public Health program encouraging cooperation with faith-based NGOs and local NGOs
- Full package of care, free – of - charge:
  - Educational and social support
  - VCT
  - HAART (from late Feb 2002)
  - treatment of OI, STI, Malaria
  - nutritional evaluation & supplementation
  - Mother & Child Prevention & Care (MCPC)
  - Overall Informatics Management
- run by Community of Sant' Egidio, comprehensive agreement with Ministry of Health
- Training courses locally and internationally for M.D.s, technicians, biologists, nurses, social workers, activists

# Implementation DREAM plan



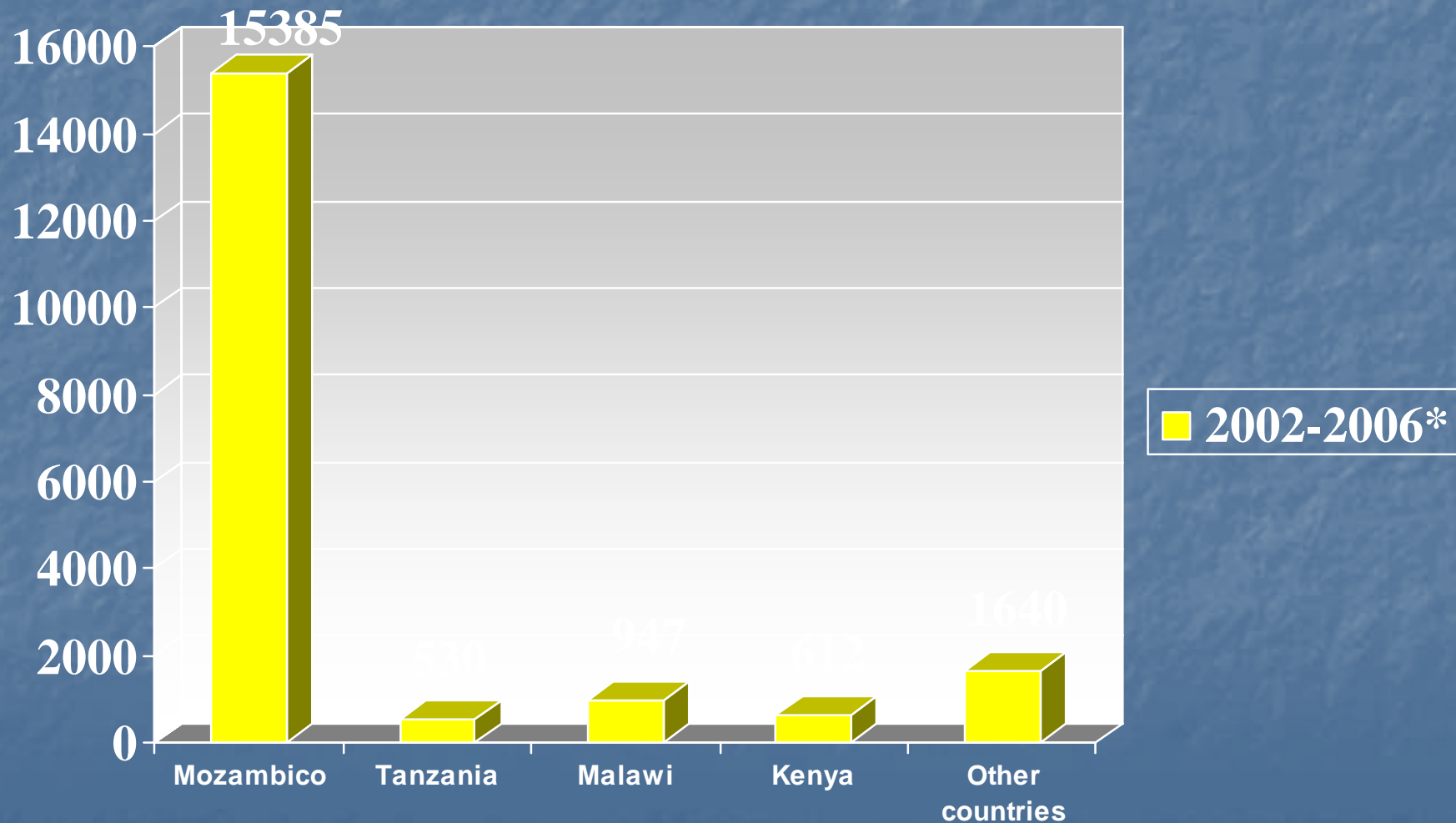
Patients cared: 2002-2006\*  
(Counselling, Test, health education, nutritional assessment)  
Total: 25752





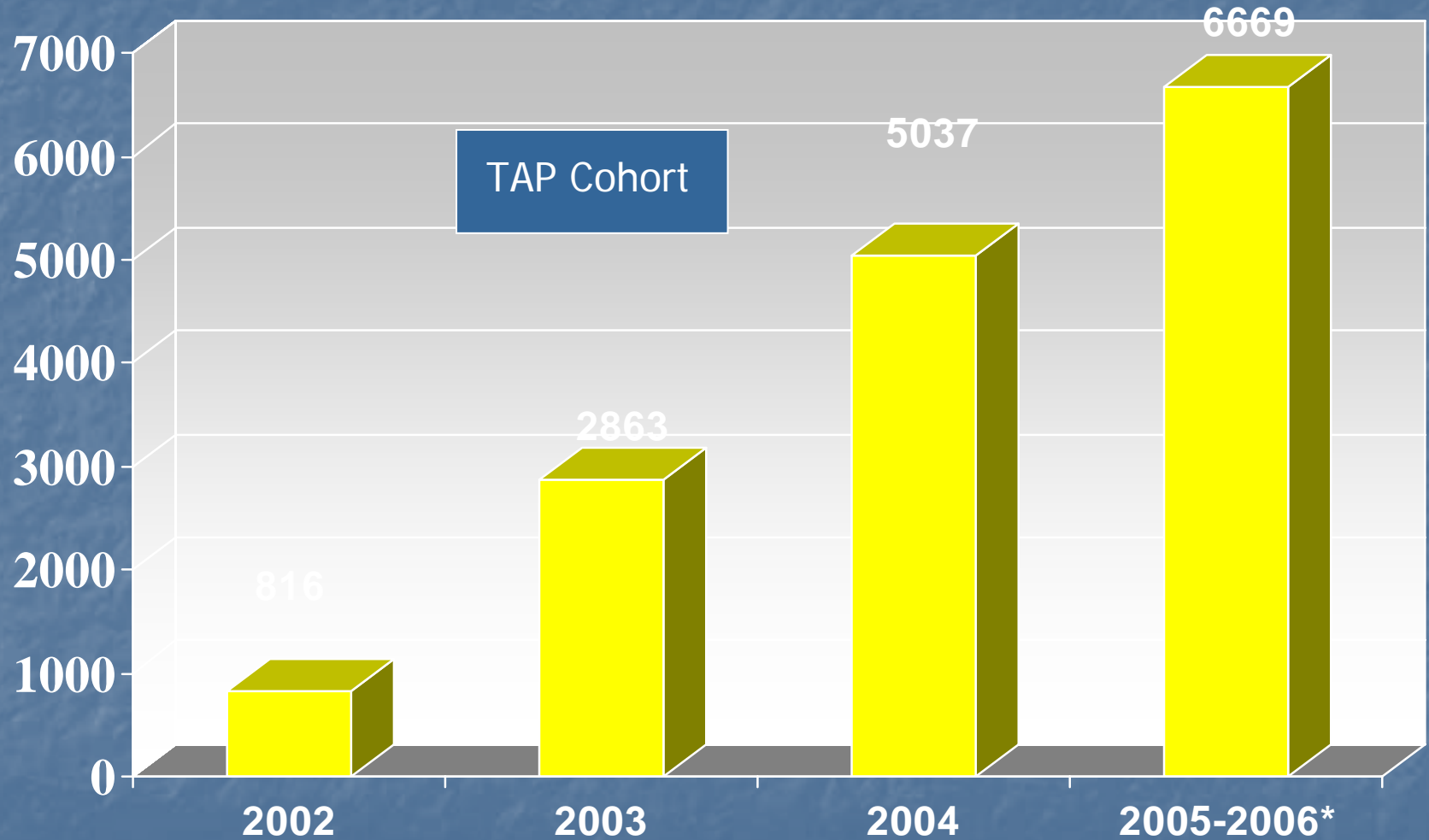
# Patients under treatment 31/03/2006

TOTAL 19.114



# Enrolled patients by year in Mozambique

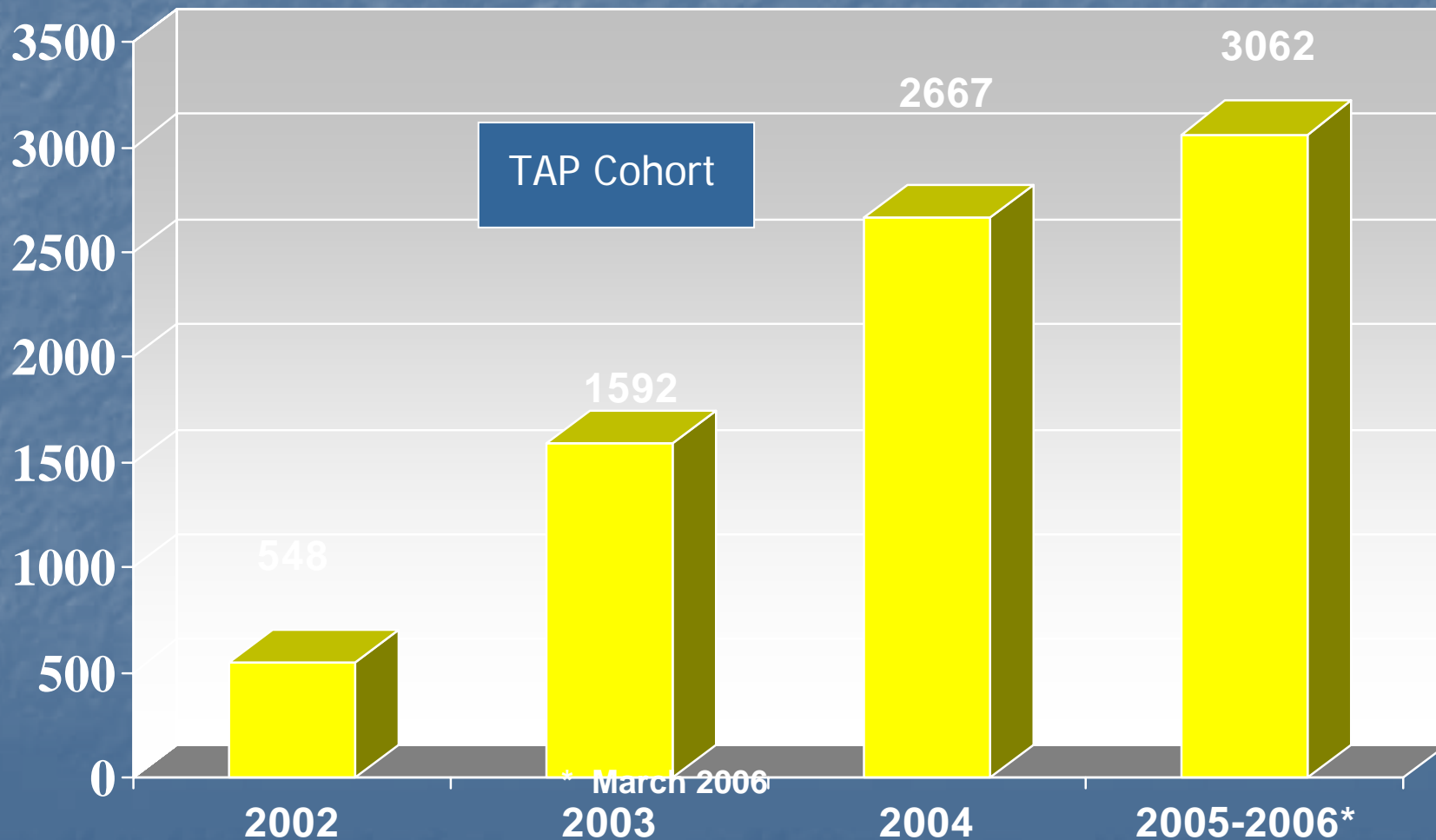
Total: 15,385



\* March 2006

# Patients received HAART in Mozambique by year

TOTAL 7,869



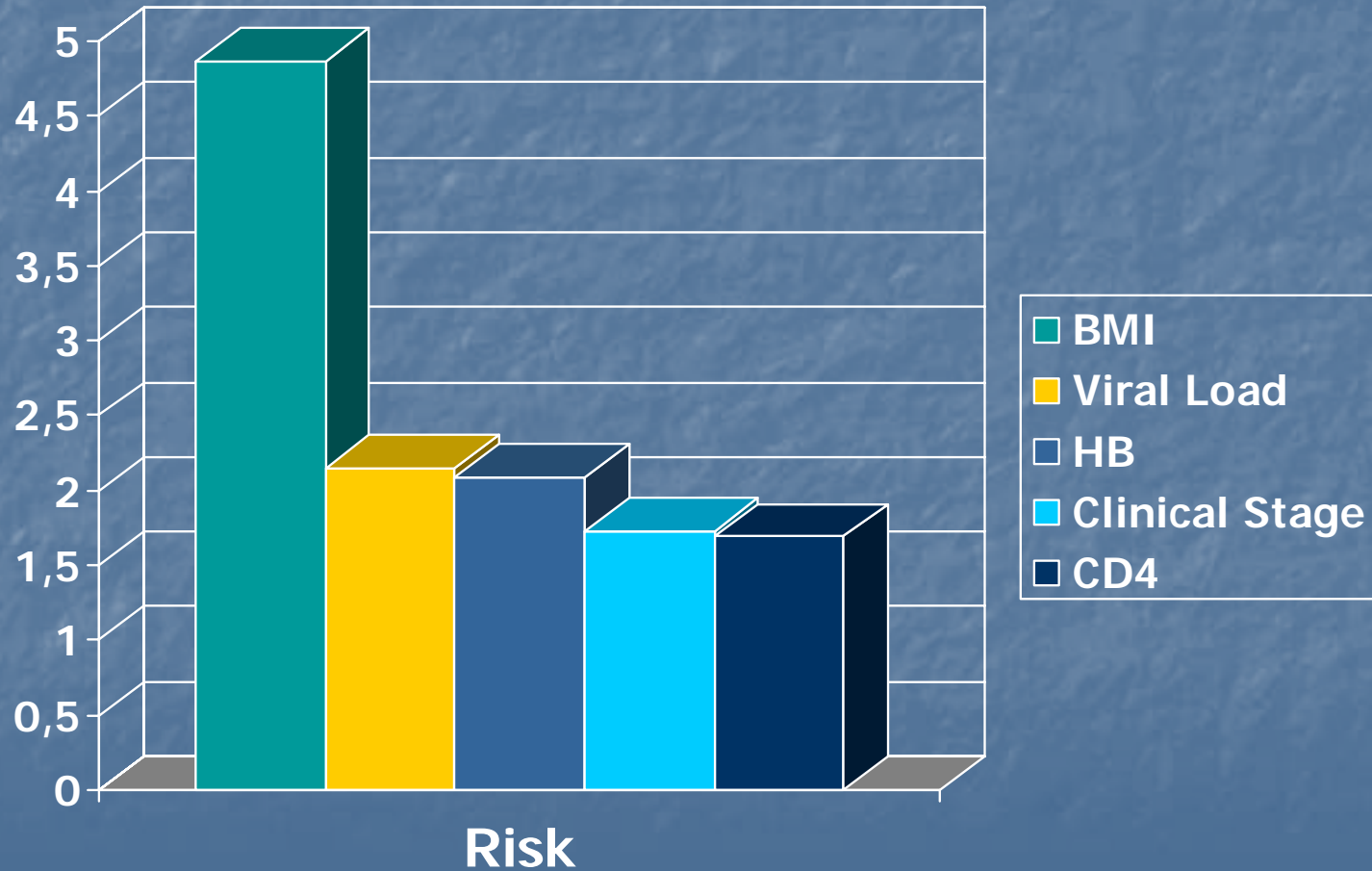
# The African patient profile

- Malnourishment
- TB
- Malaria
- Anemia
- Parasitosis
- Poverty
- Poor access to health centers
- HIV Clade C





# Cox Proportional Risk Analysis



# Achieving Adherence

Health Education Research Advance Access published June 9, 2005

HEALTH EDUCATION RESEARCH

Theory & Practice

Pages 9

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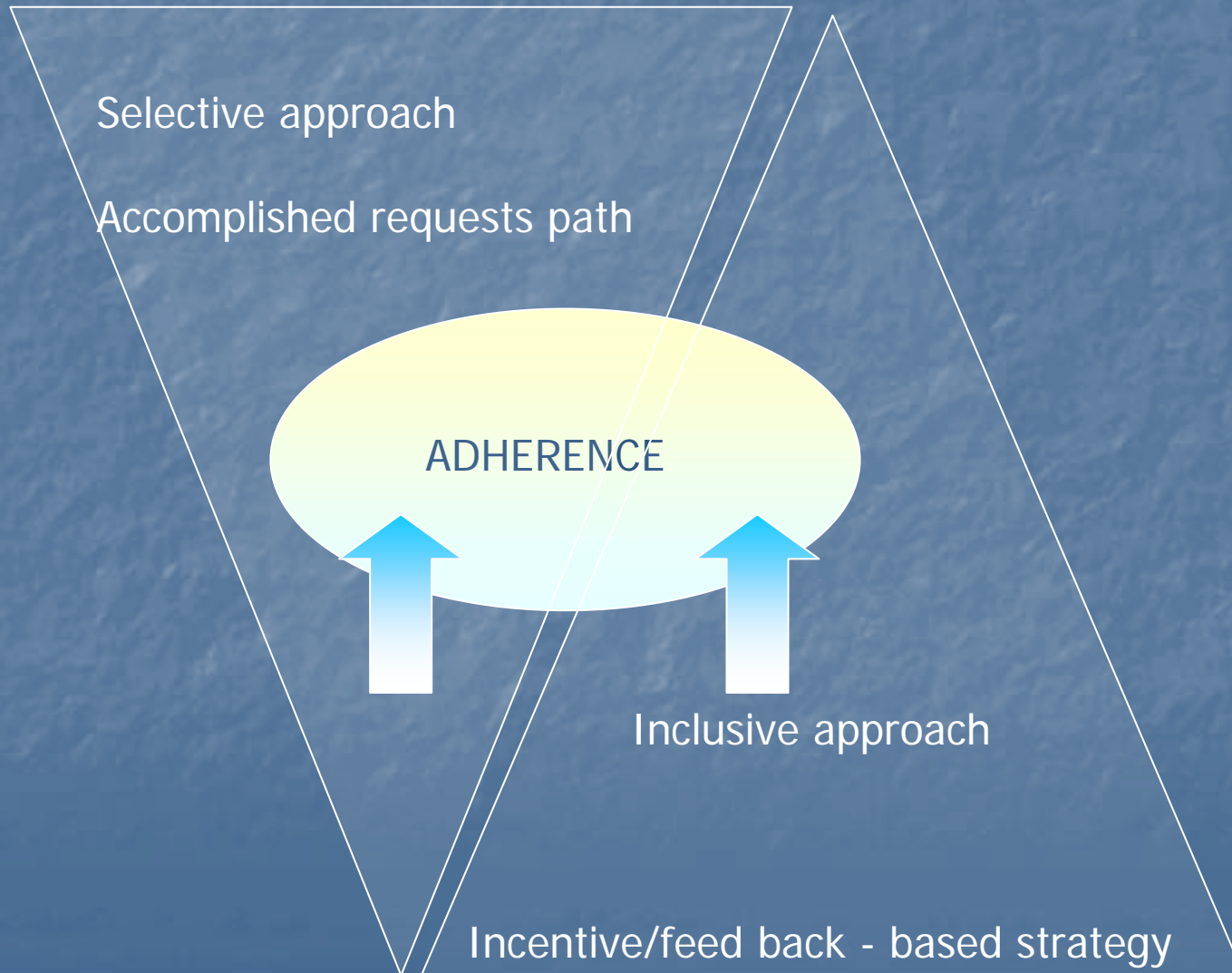
## **Improving adherence to highly active anti-retroviral therapy in Africa: the DREAM programme in Mozambique**

M. C. Marazzi<sup>1</sup>, M. Bartolo<sup>2</sup>, L. Emberti Gialloreti<sup>3</sup>, P. Germano<sup>2</sup>, G. Guidotti<sup>4</sup>,  
G. Liotta<sup>3</sup>, M. Magnano San Lio<sup>2,8</sup>, S. Mancinelli<sup>3</sup>, M. A. Modolo<sup>5</sup>, P. Narciso<sup>6</sup>,  
C. F. Perno<sup>7</sup>, P. Scarcella<sup>3</sup>, G. Tintisona<sup>2</sup> and L. Palombi<sup>3</sup>

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# Achieving Adherence

# Achieving Adherence: 2 different strategies





# Incentive – based approach

## Pros

- Low rates of refusal
- Low rates of lost to follow-up
- Patient involved in the care process
- Self-promoting process
- Holistic approach
- Learning and peer education

## Cons

- Potential failure candidate patients enrolled
- High level human resources requested
- High level laboratory resource requested

# Achieving Adherence: Incentive-based elements

## **Predisposing Cultural Factors**

- Increasing patient knowledge about the disease and treatment
- Health alphabetization

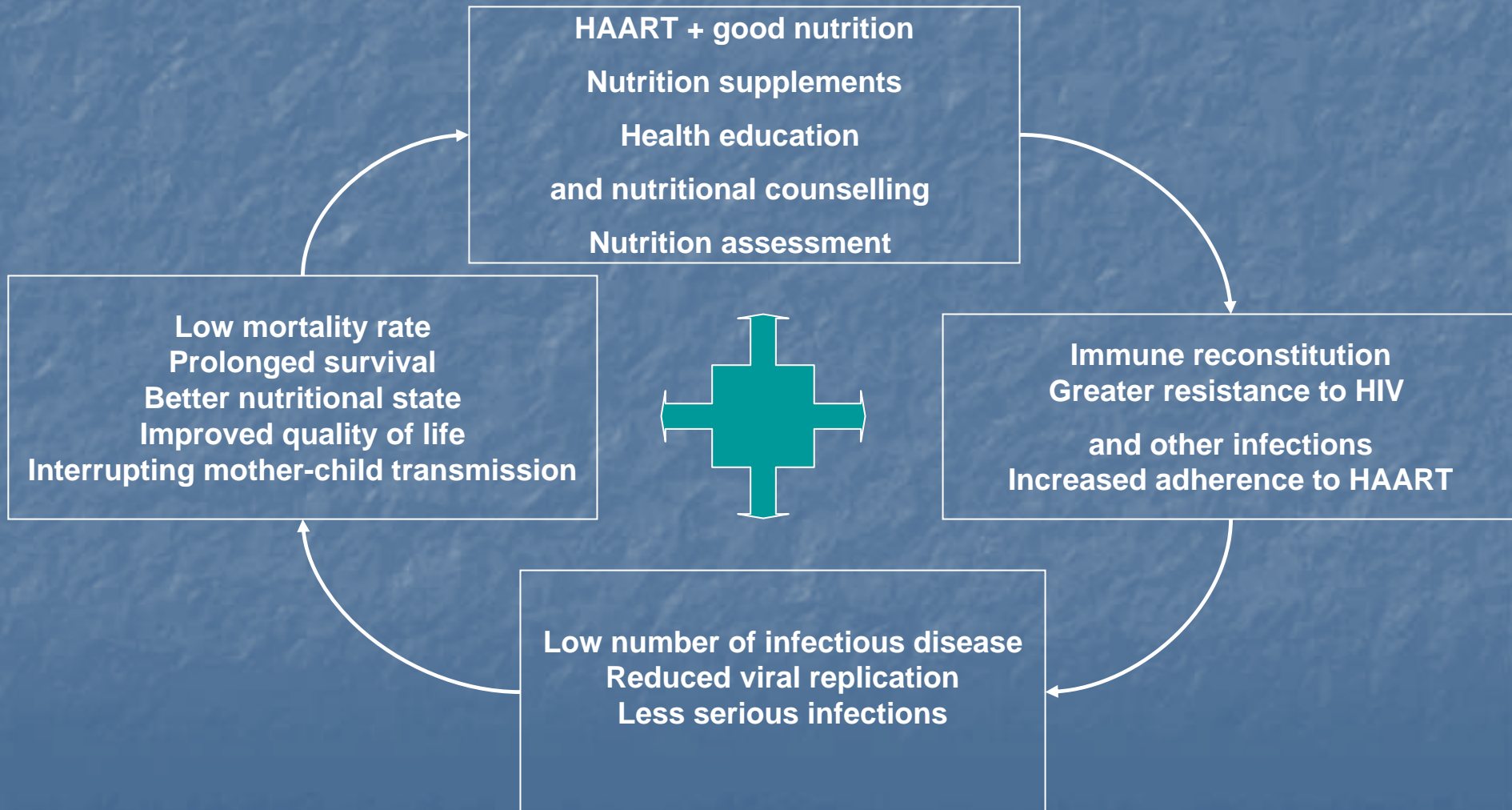
## **Enabling – Organizational Factors**

- Free access to HAART and to OI treatment
- Nutritional Evaluation & Supplementation

## **Reinforcing – Participative Factors**

- Employment of activists in the programme
- Person-centred care
- Community approach
- Home care for those in need and children

# The Virtuous cycle to fight HIV and Malnutrition





Health education  
30,000 families received an health education





## Involving patients in the care process: “Mulheres para o dream”

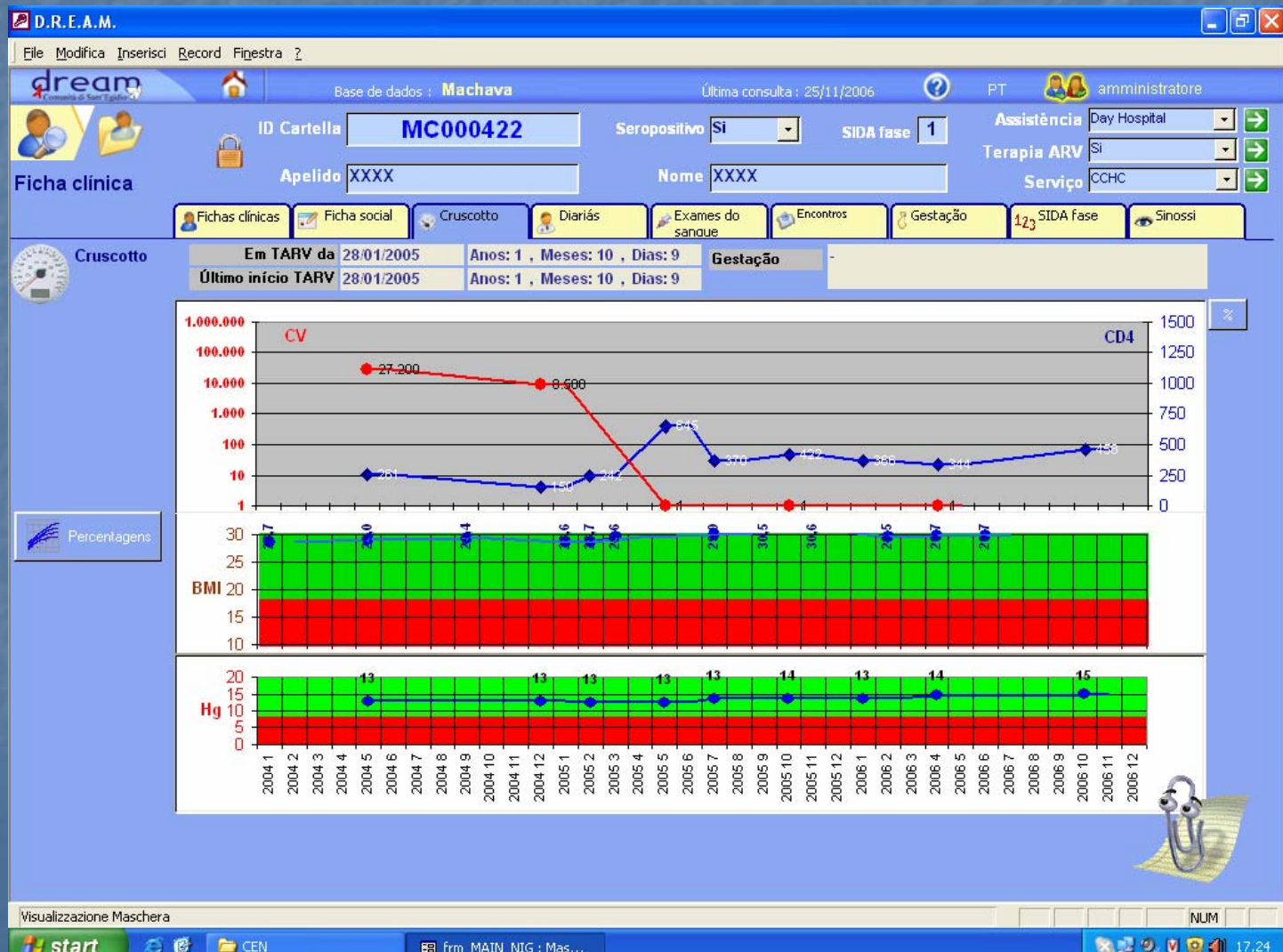


# Achieving Adherence: Feed-back components

- Viral load – CD4 cell count routine evaluation
- Clinical parameters routine evaluation to minimize toxicity
- Systematic clinical and health status markers evaluation
- Computerized management of the appointments
- Routine administered drug consumption questionnaire
- Patient retrieval system & social support



# Viral load – CD4 cell count routine evaluation



# Clinical parameters routine evaluation

**D.R.E.A.M.**

File Modifica Inserisci Record Finestra ?

Base de dados : **Machava** Última consulta : 25/11/2006 PT amministratore

ID Cartella **MC001410** Seropositivo **Si** SIDA fase **1** Assistenza **Day Hospital**

Apelido **XXXX** Nome **XXXX** Terapia ARV **Si** Serviço **CCHC**

Ficha clínica

Fichas clínicas Ficha social Cruscotto Diariás Exames do sangue Encontros Gestação 123 SIDA fase Sinossi

### Exames do sangue

Exames do sangue

Data	Entro	Hemo	Pla	LYM	CD4	CD8	CD4%	CD8%	CD4/CD8	C.Viral	GPT	GOT
11/08/2006	3,68	12,8	267	49,2	238		19,3			1	66,4	40,9
10/02/2006	3,76	13,2	197	44,2	276		18			1	18,8	23,4
11/11/2005	3,89	13,8	274	53,2	262		20,1				16,4	21,8
19/08/2005	3,68	12	248	54,8	283		18,7			60	13,6	18,8
19/05/2005	3,65	12	206	60,9	287	818	18,1	51,6	0,35		16,3	23,9
11/02/2005	3,5	11,7	211	55	230	561	20,4	49,8	0,41		12,2	17
11/11/2004	3,43	10,9	104	58	211	451	21,2	45,2	0,47		12,7	19,3
10/09/2004	4,45	13,1	325	61,1	197	609	15,9	49,2	0,32		16,6	22,4
18/08/2004	3,98	11,1	216	55,1								
30/07/2004	4,72	12,4	244	41	151	617	10,3	42	0,24		15,1	25,6
30/04/2004	4,16	10,9	239	59,2	257	852	15,3	50,7	0,3	32600	20,9	30,3
30/01/2004	4	10,8	219	59,6	357	1230	18,6	64,1	0,29		10,7	22,8
30/10/2003	3,84	10,4	289	53,2	237	1189	11,5	57,7	0,2	30000	18,1	25,5

### Prescrições

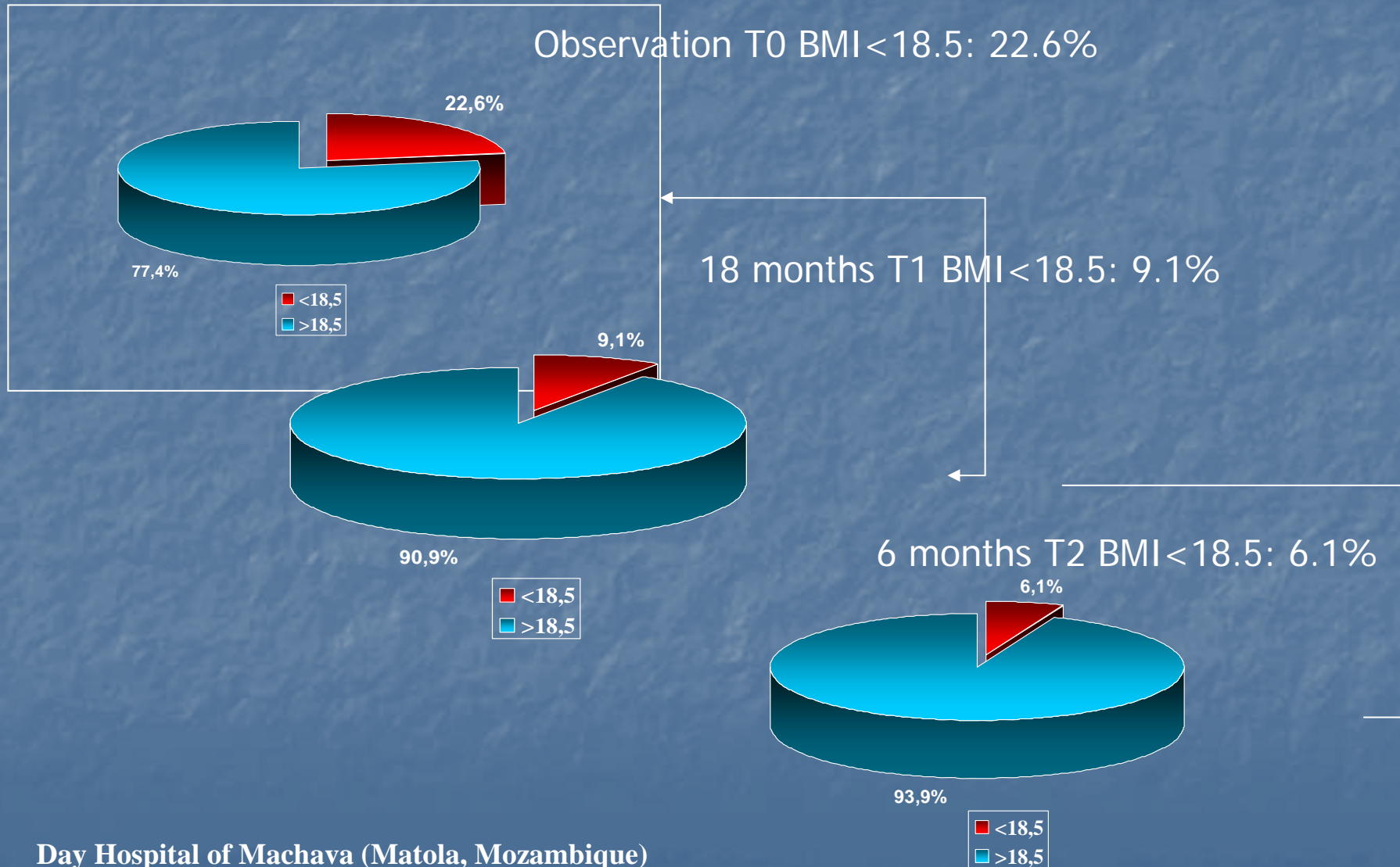
Prescrição	Encontro	Colheita de sang.	Estado
29/08/2006	12/02/2007		Atesa prelievo
25/08/2004	10/09/2004		Atesa prelievo
11/08/2004	18/08/2004		Atesa prelievo
02/06/2004	30/07/2004		Atesa prelievo
27/02/2004	30/04/2004		Atesa prelievo
21/11/2003	30/01/2004		Atesa prelievo

Visualizzazione Maschera

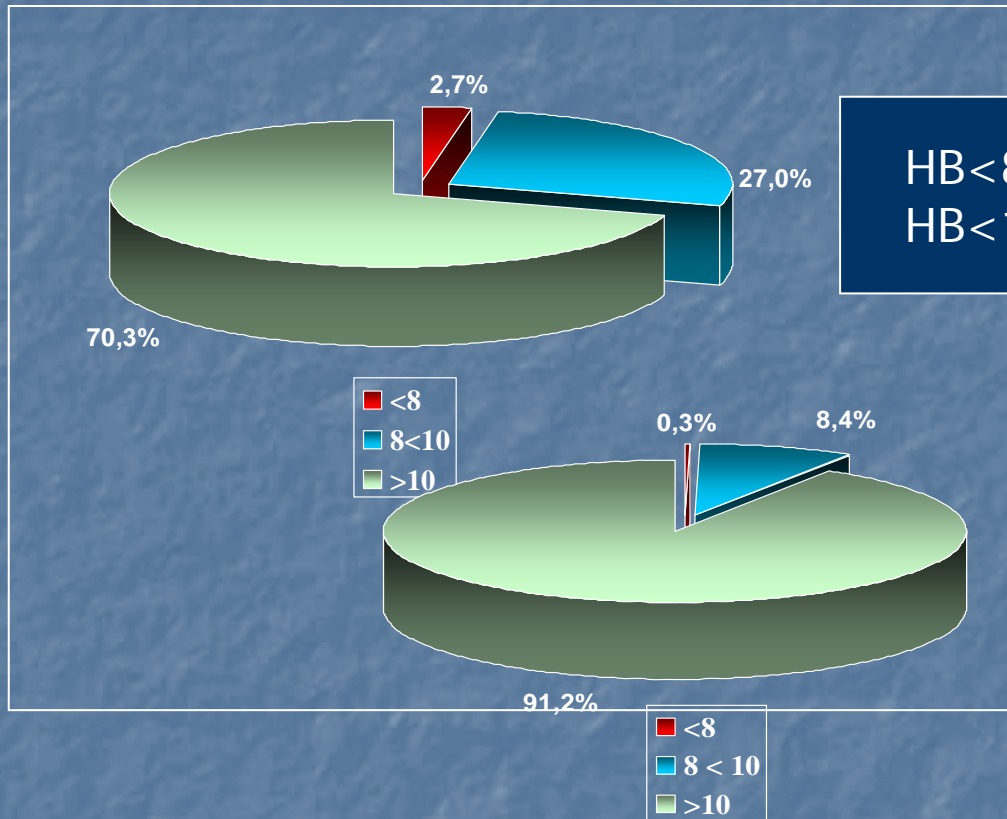
start CEN frm\_MAIN\_NIG : Mas... 17.51



# BMI distribution patterns in 296 patients along 24 months



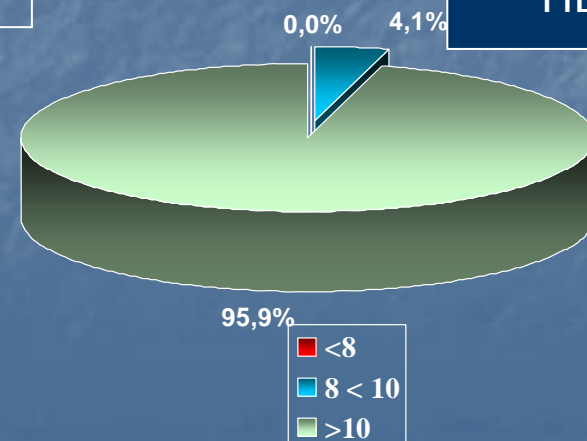
# Hb levels in the same cohort



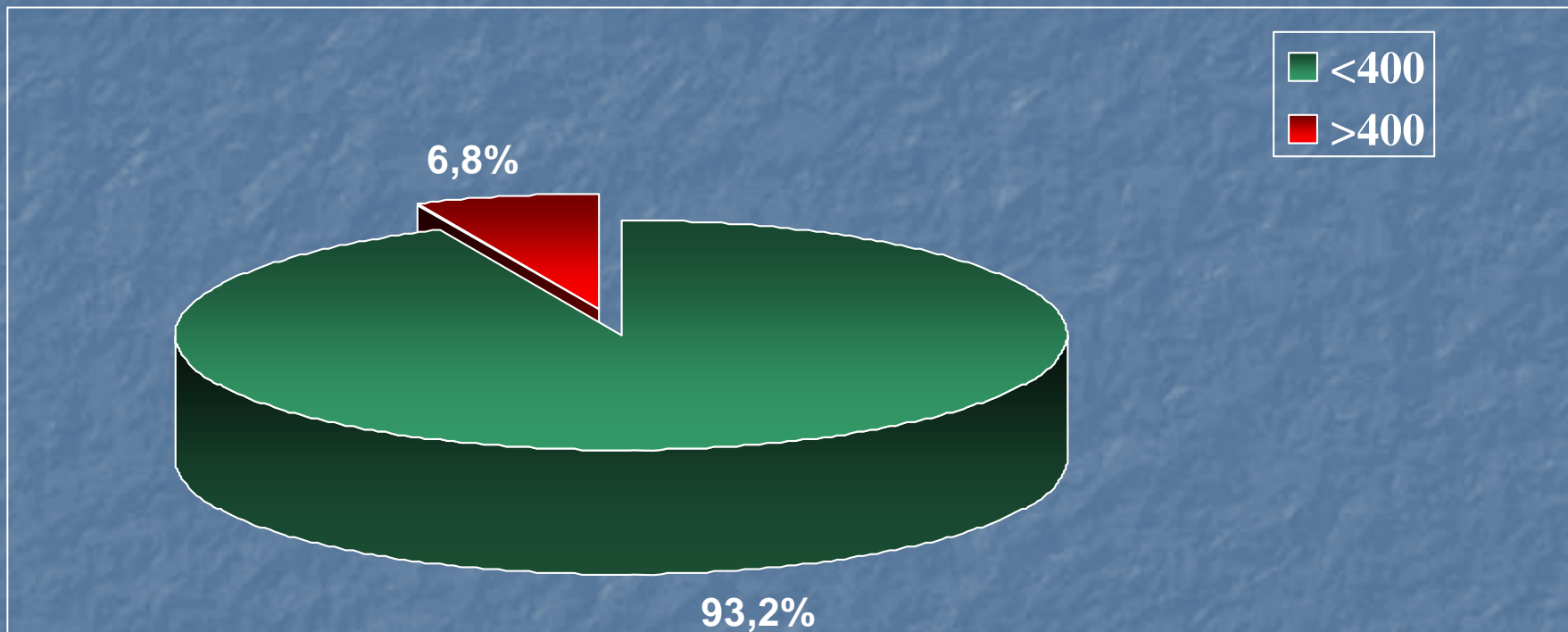
HB<8: 2.7%  
HB<10: 27%

HB<8: 0.3%  
HB<10: 8.4%

HB<8: /  
HB<10: 4.1%

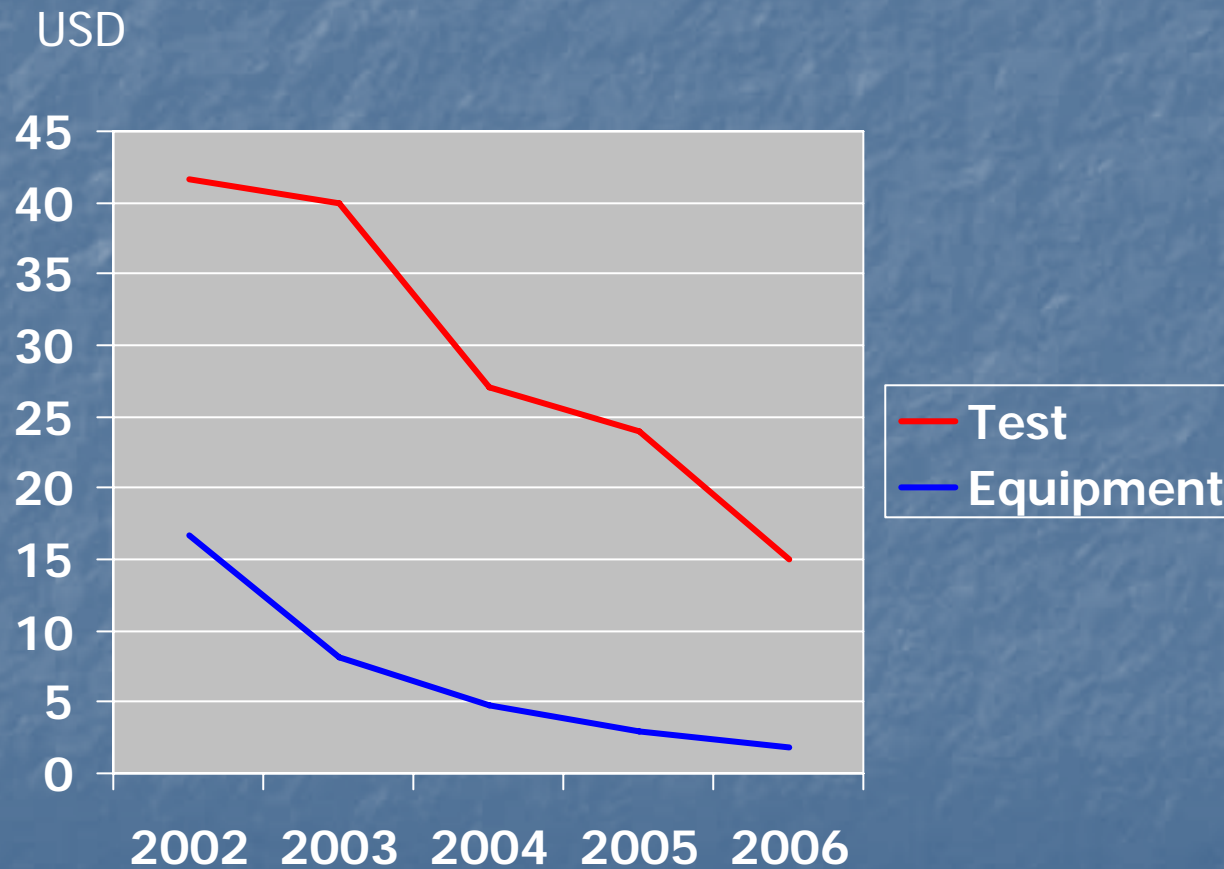


# Viral load at the final observation



< 400 copies/ml	>400 copies/ml
276	20

# Cost of Viral Load (b-DNA) unit analysis by year





Involving patients in the care process....



# Mulheres para o dream





# Major limitations of an exclusively preventive approach - MTCT

- High refusal and drop out rates
- Severe limitations resulting from low access rate to health centers
- Unsafe breastfeeding
- Increased number of viral resistance mutations
- No protection for mothers



# Resistances

42 unselected women that completed the protocol were assessed for genotypic resistance, in a time period of between 2-6 months after therapy was interrupted:

All carried a subtype C strain (more prone to resistance to Nevirapine compared to subtype A and B)

37 (88.1%) showed no mutations associated with resistance

5 (11.9%) carried mutations associated with resistance to Nevirapine

3 : K103N

2 : G190S

Resistance to 3TC and AZT-D4T was not detectable



# Distribution by HAART line

- First line: 4,855 (87,08%)
- First line Tox.mod: 316 (5,66%)
- Second line: 405 (7,26%)
- 92,74% of patients are still in first line with a median time of more than 2 years

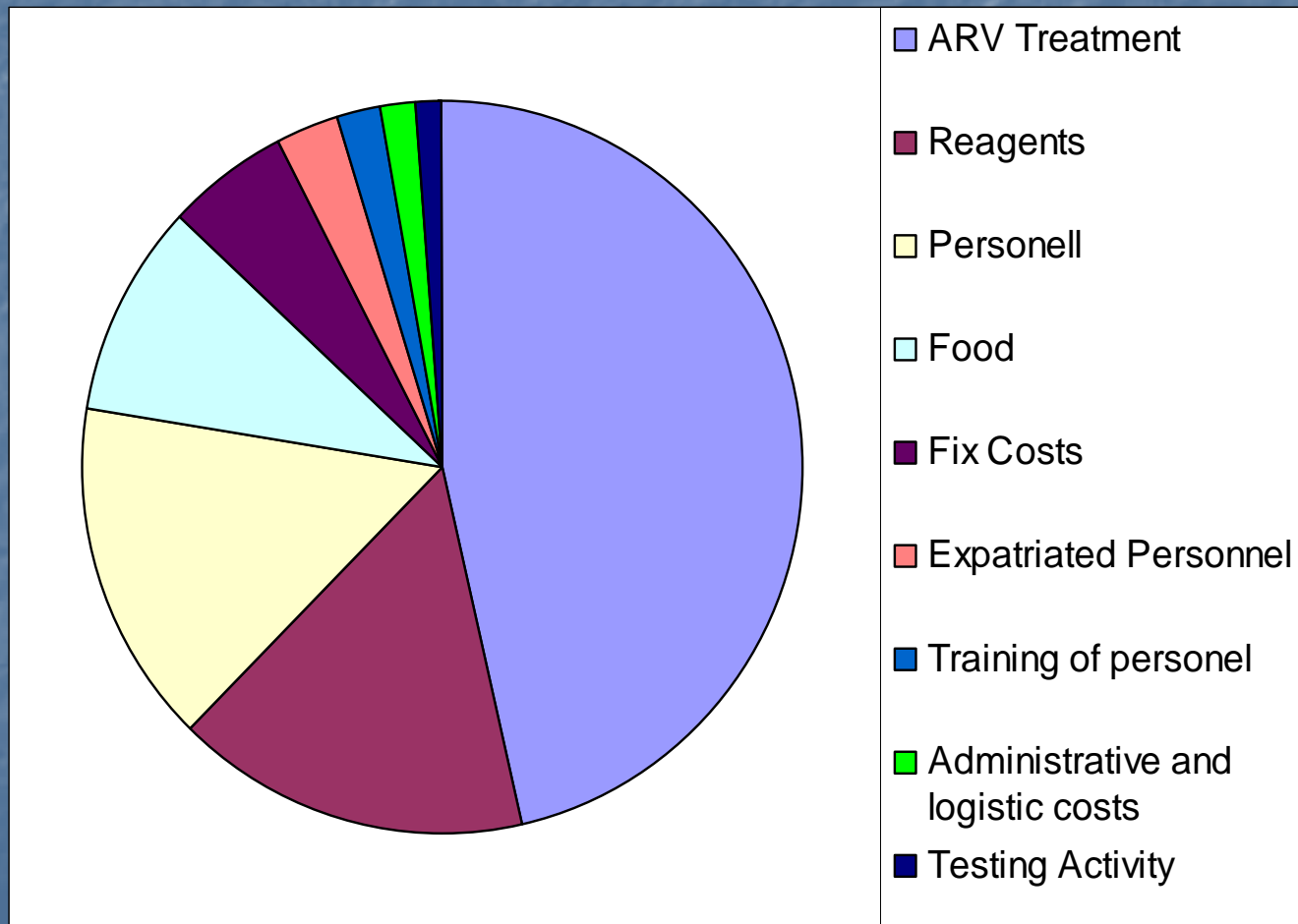
# DREAM costs

## Results:

- Total program: **4,350,000 USD**
- Cost per patient per year: **540 USD**

# DREAM costs

Details



# 4 pillars to bridge relief to development

- A developed system to monitor adherence and the patient's immunological and virological state
- A complex and capillary system of health education, of patient involvement in the treatment process, of formation and refresher courses for personnel
- Widespread use of antiretroviral treatment for the purpose of prevention, with special attention paid to vertical transmission and protecting the HIV-negative partner in discordant couples
- A new generation of health centres equipped with the necessary human resources, communication and coordination technologies and the ability to mobilize.



# The new building:

A system of care that is more geared for the African environment and conditions, well able to offer all patients more suitable treatment

A system based on equity and sustainability that strives for prevention and treatment